

## ABSTRACT OF THE DISCLOSURE

The present invention provides an improved optical pickup device based on the developing electronically reconfigurable diffraction grating MEMS technology. The improved optical pickup device has applications that include but are not limited to CD and DVD for audio, video and computer technology. The present invention can provide improvements to this current and future technology with higher data storage density and faster retrieval. In a preferred embodiment, the optical pickup apparatus comprises an electronically reconfigurable diffraction grating modulating relative light intensities as among at least two different diffraction orders of light diffracted by the electronically reconfigurable diffraction grating; focusing optics for focusing the light diffracted by the electronically reconfigurable diffraction grating into diffractive spots corresponding with each of the diffraction orders and onto an optical storage medium, which light is then reflected by the optical storage medium; and a detector for detecting the light reflected by the optical storage medium and striking said detector.

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